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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,617	03/11/2005	Mark W. Hildebrant	JW1 C-29 (US)	7208
23474	7590	03/16/2006	EXAMINER	
FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631			KURTZ, BENJAMIN M	
			ART UNIT	PAPER NUMBER

1723

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/527,617

Applicant(s)

HILDEBRANT ET AL.

Examiner

Benjamin Kurtz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/11/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 11-12, 14, and 17-18 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 5-8 of U.S. Patent No. 6,180,002. Although the conflicting claims are not identical, they are not patentably distinct from each other because Higgins (002) discloses a filter press comprising: a horizontally extending stack of plates (17, 68) side by side supported on an elongate support frame (13) which permits opening and closing of the stack (fig. 2), the plates being clamped together in sealed relation by the support frame (15, 14) to define a close position of the press (fig. 1-3, col. 5, lines 7-23). The stack comprising first plates (17) including a rigid frame (30) with a pair of oppositely disposed faces recessed

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inwardly on opposite sides (fig. 5), the frame having liquid permeable filter members (42) extending across the recesses of the frame (30) defining drainage chambers (51) (fig. 7, col. 6, lines 33-58). The stack further comprising second plates (150) disposed in alternating fashion with plates (17) (fig. 11), each plate (150) including a rigid frame (70) with a pair of oppositely disposed faces and including a pair of surfaces (153) on opposite sides thereof, the surfaces (153) being recessed inwardly relative to a peripheral portion of the second plate (150) with liquid permeable filter members (152) overlying the surfaces (153) with a drainage chamber (181) between (fig. 11, col. 11, lines 14-19). Each first (17) and second (150) plate defines ports (52, 160) in communication with the drainage (181) and filter (180) chambers (fig. 11). The frame (70) of the second plate (150) includes a central wall (73) having opposite sides on which the respective surfaces (153) are defined (fig. 11).

A plate (150) for a filter press comprising: a frame (70) including a peripheral and central portion, the central portion having oppositely facing sides recessed relative to the peripheral portion (fig. 11), a pair of plates (153) fixed to and overlying the sides of the central portion, plates (153) are disposed sidewardly inwardly relative to the peripheral portion and form part of a filtration chamber next to another filter plate, and the sides of the central portion define flow passages (81) that receive fluid (fig. 11, col. 9, line 60 – col. 10, line 6). The plate (150) defines a port arrangement (160) that communicates with the filtration chamber (fig. 11).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For examination purposes the non-metal material is taken to be a plastic.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 7 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Heckl et al. Patent No. 6,387,282. Regarding claim 1, Heckle (282) discloses a filter press with a first and second head assembly supported on a rail structure with the head assemblies being movable with a plurality of individual plates (1, 10) supported on the rail structure between the head assemblies extending horizontally and clamped between the head assemblies when the press is closed (fig. 1). The plates comprise a plurality of first plates (1) including a frame (3) with oppositely disposed faces, a

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peripheral portion, a central portion (2) recessed inwardly, a pair of liquid impermeable and flexible membranes (6) fixed to the frame (3) and extending across the opposite faces to define pressure chambers (6a) between the central portion (2) and the membranes (6) (fig. 2, 3 and 5, col. 4, line 59-64). The plates comprise a plurality of second plates (10) including a frame with a pair of oppositely disposed faces, a peripheral portion (15), and a central portion, a pair of heat transfer members disposed within the central portion, the heat transfer members being disposed sidewardly inwardly to the peripheral portion (15) the central portion defining a chamber (14) to bring a heated fluid into contact with the inner surfaces of the heat transfer members (fig. 9, 11e, col. 5, lines 13-23, 53-62). The first (1) and second (10) plates are disposed alternating along the rail structure in adjacent sealing contact with each other (fig. 1) defining filter chambers (4) there between (fig. 2), each chamber being defined on one side by a membrane (6) of the first plate (1) and a heat transfer member of a second plate (10) (fig. 2), and the pressure chambers (6a) communicate with a fluid source to expand the membranes (6) (fig. 3, col. 4, lines 59-64).

Regarding claims 6 and 7, Heckl (282) discloses the central portion of the second plate (10) defines thereon a pair of oppositely facing side surfaces (14) and the heat transfer members are fixed to and overly the oppositely facing side surfaces (fig. 9). The central portion of the second plate (10) is hollow and each second plate (10) comprises a heat transfer assembly (14) disposed within the central portion including the heat transfer members, the transfer members being sidewardly spaced from one another to define the chamber for receiving the heated fluid (fig. 9, 11e).

Regarding claim 17, Heckl (282) discloses a plate (10) for a filter press comprising a frame (15) including a peripheral portion, constructed of a low heat conductivity material (col. 5, lines 58-61), surrounding a central portion with oppositely facing sides recessed sidewardly inwardly relative to the peripheral portion (fig. 9, 11e). A pair of heat plates fixed to the sides of the central portion and overlying it (fig. 11e), the heat plates disposed sidewardly inwardly relative to the peripheral portion to define part of a filtration chamber (4) when disposed adjacent another filter press plate, and the sides of the central portion define flow passages which receive heated fluid and transport the heated fluid into contact with the heat plates (fig. 9, 11e, col. 5, lines 13-23, 53-62).

3. Claims 11, 12, 14 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Higgins Patent No. 6,180,002. Regarding claims 11 and 14, Higgins (002) discloses a filter press comprising: a horizontally extending stack of plates (17, 68) side by side supported on an elongate support frame (13) which permits opening and closing of the stack (fig. 2), the plates being clamped together in sealed relation by the support frame (15, 14) to define a close position of the press (fig. 1-3, col. 5, lines 7-23). The stack comprising first plates (17) including a rigid frame (30) with a pair of oppositely disposed faces recessed inwardly on opposite sides (fig. 5), the frame having a pair of liquid permeable filter members (42) extending across the recesses of the frame (30) defining drainage chambers (51) (fig. 7, col. 6, lines 33-58). The stack further comprising second plates (150) disposed in alternating fashion with plates (17) (fig. 11), each plate (150) including a rigid frame (70) with a pair of oppositely disposed

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faces and including a pair of heat transmitting surfaces (153) on opposite sides thereof, the heat transmitting surfaces being recessed inwardly relative to a peripheral portion of the second plate (150) with liquid permeable filter members (152) overlying the heat transmitting surfaces (153) with a drainage chamber (181) between them and each heat surface (153) defines grooves (181) (fig. 11, col. 11, lines 14-19). Each first (17) and second (150) plate defines ports (52, 160) in communication with the drainage (181) and filter (180) chambers to permit drainage of liquid from the slurry (fig. 11).

Regarding claim 12, the frame (70) of the second plate (150) includes a central wall (73) having opposite sides on which the respective heat surfaces (153) are defined (fig. 11). The central wall (73) defines heating passages (81) (fig. 11).

Regarding claim 17, Higgins (002) discloses a plate (150) for a filter press comprising: a frame (70) including a peripheral and central portion constructed on a low heat conductivity material (col. 7, lines 49-52), the central portion having oppositely facing sides recessed relative to the peripheral portion (fig. 11), a pair of heat plates (153) fixed to and overlying the sides of the central portion, heat plates (153) are disposed sidewardly inwardly relative to the peripheral portion and form part of a filtration chamber next to another filter plate, and the sides of the central portion define flow passages (81) that receive heated fluid (fig. 11, col. 9, line 60 – col. 10, line 6).

Regarding claim 18, 19 and 20, the plate (150) defines a port arrangement (160) that communicates with the filtration chamber (fig. 11). The heat plate (153) defines an irregular surface (fig. 11), and the irregular surface comprises a plurality of grooves (181) opening sidewardly towards the filtration chamber (fig. 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heckl (282) in view of Juhasz Patent No. 3,390,772. Regarding claims 2 and 3, Heckl (282) discloses the filter press with the first plate (1) defining a drainage passage (9) which communicates with the filter chamber (4) to permit drainage of the liquid of the slurry (fig. 2, col. 5, lines 3-9), but does not teach the second plate defining a drainage passage. Juhasz (772) teaches a heating plate (19) defining a drainage passage (35), which communicates with the filter chamber to permit drainage of the liquid portion of the slurry through the plate (19) (col. 6, lines 8-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plate as taught by Juhasz (772). The passage (35) abducts the filtrate that has passed through the filter cloth (28a, 28b) (col. 1, lines 33-35).

Regarding claims 4, and 5, Heckl (282) further discloses the first plate (1) having a liquid permeable filter member (7) overlying the membrane (6) with a drainage chamber between (fig. 5, col. 5, lines 1-9), but Heckl (282) does not teach the second plate having a liquid permeable filter member. Juhasz (772) teaches a plate (19) with a pair of liquid permeable filter members (28a) overlying respective heat transfer

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members (24) each filter member (28a) and respective heat transfer member (24) together defining a drainage chamber there between so that each plate (19, and 20) defines a passage therein to permit drainage of the liquid portion of the slurry from opposite sides of the filter chambers (fig. 1, col. 5, line 73 – col. 6, line 8), and the heat transfer member (24) defines therein a plurality of grooves (50, 51) which open toward the adjacent filter member to define a drainage surface (fig. 6, col. 7, lines 1-6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the heat plate of Juhasz (772). The channels of the drainage chamber allow vapors to withdraw like in case of heated wet porous materials (col. 3, lines 16-19).

Regarding claims 9 and 10, the first 10 lines of claim 9 are covered by the rejection of claim 4 above, Heckl (282) further discloses the first plate (1) defining porting including upper and lower ports (fig. 4, lines 25-34) but does not disclose ports for the second plate (10). Juhasz (772) teaches a first plate (19) with porting (33, 35) and a second plate (20) with porting (33, 36), which is disposed diametrically opposite the ports of the adjacent plates each porting communicates with respective drainage chambers (42) (fig. 3). The porting of the first (19) and second (20) plates permits air blow through the filter cake both transversely and longitudinally (fig. 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the alternating filter plates as taught by Juhasz (772) with the porting of Heckl (282). Having multiple ports maximizes the efficiency and ensures a uniform distribution

of the vacuum (Heckl (282), col. 5, lines 24-26) and the ports in the heating plate of Juhasz (772) allows vapors to withdraw (Juhasz (772), col. 3, lines 16-19).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heckl (282) in view of Klinkau Patent No. 4,832,840. Heckl (282) discloses the heat transfer elements (10) are constructed of metal (col. 5, lines 15-17) and the frame is constructed of a thermal insulating material (col. 5, lines 59-62) but does not disclose what that insulating material is. Klinkau (840) teaches making a frame from a plastic (col. 6, lines 63-65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use plastic in the frame. By using plastic the frame can be produced by known proven welded structures (col. 7, lines 48-50).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higgins (002). Higgins (002) discloses the first plate (17) including a central (33) and peripheral portion (30) the central portion (33) recessed inwardly relative to portion (30) but does not disclose the plate (17) having a pair of liquid impermeable membranes. Higgins (002) discloses the second plate (150) having a pair of liquid impermeable membranes (153) disposed between a central portion (73) and a filter member (152) where the central portion (73) and the membrane (153) define a pressure chamber (fig. 11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the membrane of the second plate in the first plate. When the pressure chamber is pressurized the membrane expands towards the opposed filter member to pressurize the slurry to facilitate liquid-solid separation (col. 3, lines 10-15).

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juhasz (772) in view of Heckl (282). Regarding claim 15, Juhasz (772) discloses a plate (19) for a filter press comprising: a rigid frame (22) including a peripheral and central portion the central portion with a width less than the peripheral portion defining recesses (fig. 4), a pair of heat transfer elements (24) disposed on opposite sides of the frame (22) within the recesses with each heat element (24) comprising a peripheral portion fixed to the frame (22) defining bellows (52a) with a heat plate (24) fixed to the inner edge of the bellows extending across the recess, and each side of the central portion and the heat element (24) define a chamber providing heated fluid (fig. 4, col. 3, lines 30-36). Juhasz (772) teaches the heat element (24) imbedded with aluminum pigment but does not teach the element being metal. Heckl (282) teaches a heat plate (10) with a heat element composed of a metal, aluminum. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the metal heat plate. The metal heat plate provides a high thermal conductivity (col. 5, lines 15-17).

Regarding claim 16, Juhasz (772) further discloses the frame (19) defining a flow passage arrangement which communicates with filtrate chambers (42) at outward facing surfaces of the heat element (24) the flow passage arrangement communicates with a liquid discharge conduit (35) (fig. 3).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Kurtz whose telephone number is 571-272-

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8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bk 3/10/2006


JOHN KIM
Primary PATENT EXAMINER